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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/650,084	08/29/2000	Takeo Suzuki	196744US2	9184

22850 7590 08/03/2004

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

LUGO, DAVID B

ART UNIT	PAPER NUMBER
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2637

DATE MAILED: 08/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/650,084

Applicant(s)

SUZUKI ET AL.

Examiner

David B. Lugo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-20 is/are allowed.
- 6) ☒ Claim(s) 1 and 6 is/are rejected.
- 7) ☒ Claim(s) 2-5 and 7-12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 August 2000 and 19 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The replacement drawings for Figures 16 and 17 were received on 5/19/04. These replacement drawings are acceptable.

Response to Arguments

2. The objections to claims 1-20 regarding various informalities have been withdrawn as applicant has addressed all issues raised in the previous Office action.
3. Applicant's arguments, see page 11, second paragraph, filed 5/19/04, with respect to the rejection of claims 1-12 under 35 U.S.C. § 112, first paragraph have been fully considered and are persuasive. The rejection of claims 1-12 has been withdrawn.
4. Applicant's arguments, see pages 12-13, filed 5/19/04, with respect to the rejection(s) of claim(s) 1 under 35 U.S.C. § 102(b) as being anticipated by Wijting et al. and the rejection of claim(s) 1 and 6 under 35 U.S.C. § 102(e) as being anticipated by Uesugi et al. have been fully considered and are persuasive. Therefore, the rejections have been withdrawn. However, upon further consideration, a new ground(s) of rejection of claims 1 and 6 are made in view of a newly applied prior art reference.

Claim Rejections - 35 USC § 102

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
6. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Lee U.S. Patent 6,574,204 (cited in previous Office action).

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7. Regarding claim 1, Lee teaches an interference cancellation apparatus for canceling interference components included in received signals comprising a rank determination unit (CPU) 700 which ranks the terminals according to the known transmission rate of the respective user terminals (col. 6, lines 13-20), where the known transmission rates for the respective terminals are not detected by measuring signal power (col. 5, lines 50-64).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee in view of Uesugi et al. U.S. Patent 6,526,271 (cited in previous Office action).

10. Regarding claim 6, Lee teaches an interference cancellation apparatus for canceling interference components included in received signals comprising a rank determination unit (CPU) 700 which ranks the terminals according to the known transmission rate of the respective user terminals (col. 6, lines 13-20). In addition, Lee states that if the number of the users in a group is greater than the number of multipliers and accumulators of the correlation bank, the despreading and decoding operations are performed a number of times (col. 6, lines 20-24).

11. Lee does not expressly state that the rank determination unit is configured to determine the rank of each user based on quality information for each user. Uesugi et al. disclose selection of a user with a high required quality as a user providing great interference to other users.

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12. It would have been obvious to one of ordinary skill in the art to use the teaching of Uesugi et al. of selecting users requiring a high quality in the invention disclosed by Lee as a way to select a subset of users in a group of users having the same transmission rate when the number of users in the group is greater than the number of users that may be processed in a first iteration of the interference canceller, to enable the users having the greatest interference in the group to be cancelled from user signals in subsequent iterations.

Allowable Subject Matter

13. Claims 13-20 are allowed.

14. Claims 2-5 and 7-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **David B. Lugo** whose telephone number is **(703) 305-0954**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Jay Patel**, can be reached at **(703) 308-7728**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
P.O. Box 1450
Alexandria, VA 22313-1450

or faxed to:

(703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

dl

7/27/04


KHAI TRAN
PRIMARY EXAMINER 8/2/04